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A CAMPING WE WILL GO.
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BATTLE CREEK PUBLIC SCHOOLS, MICH.
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VARIOUS EDUCATIONAL EXPERIENCES IN OUTDOOR EDUCATION FOR CHILDREN IN GRADES 5 AND 6 ARE THE SUBJECT OF THIS TEACHING GUIDE. FUNCTIONAL EXPERIENCES IN OUTDOOR EDUCATION CAN BE ACHIEVED IN THE AREAS OF--(1) SOCIAL LIVING, (2) WORK EXPERIENCES, (3) HEALTH EDUCATION, AND (4) OUTDOOR EDUCATION, AND AS AN EXTENSION OF THE CLASSROOM INVOLVING STUDIES OF HEALTH, SKILLS, AND SOCIAL STUDIES. SPECIFIC ACTIVITIES ARE DESCRIBED IN THE AREAS OF LANGUAGE ARTS, MATHEMATICS AND MEASUREMENT, NATIVE ARTS AND HANDICRAFTS, RECREATION AND OUTDOOR SPORTS, SCIENCE AND CONSERVATION EDUCATION, AND SOCIAL STUDIES. EACH OF THE VARIOUS ACTIVITIES SUGGESTED IS DESCRIBED IN TERMS OF TIME PERSPECTIVE, DESCRIPTION OF ACTIVITY, EQUIPMENT NEEDED, SEASONAL AVAILABILITY, AND LEARNING POSSIBILITIES STEMMING FROM THE ACTIVITY. THIS TEACHING GUIDE CONCLUDES WITH AN OUTLINED DESCRIPTION OF CLASSROOM TEACHER RESPONSIBILITIES IN THE RESIDENT OUTDOOR PROGRAM. (JS)

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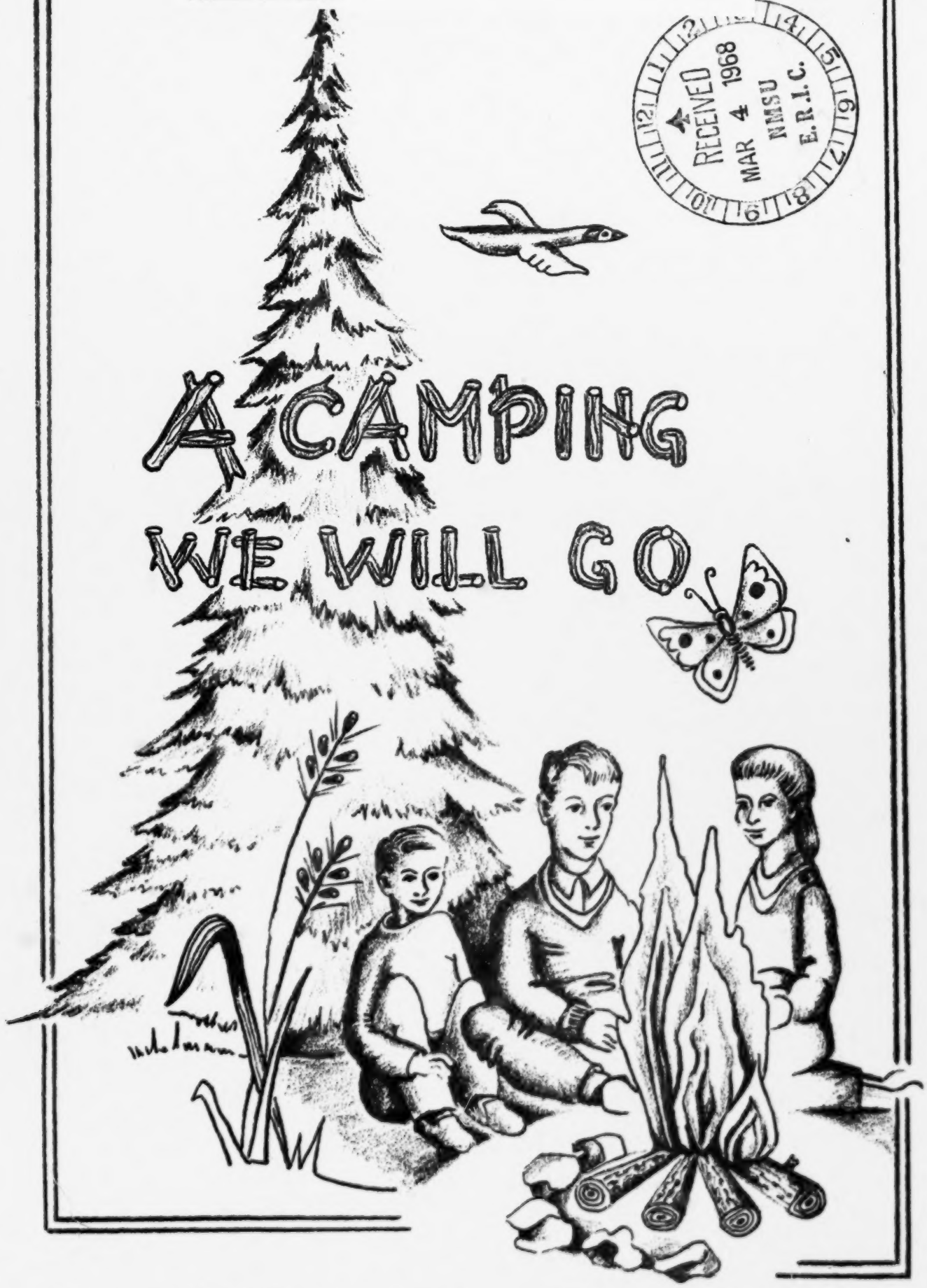

BATTLE CREEK PUBLIC SCHOOLS, BATTLE CREEK, MICHIGAN

RC001697

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A CAMPING WE WILL GO

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FOREWORD

The outdoor school experience for the boys and girls in the fifth and sixth grades is a very valuable part of our educational program. Through this activity children learn to live together, learn together, and play together in an entirely different situation than that afforded in a regular classroom.

Since careful planning by the classroom teacher is necessary to make this an educational experience of importance, this resource guide has been written to describe many of the possible experiences that children might engage in while spending a week in an outdoor school setting. It is intended to be used not as a curriculum guide but as a teaching aid for the teacher who is preparing a class for this experience.

The activities described in this guide are primarily those which have been more commonly pursued by classes in the past. However, the listing does not reflect all possible activities. Teachers and children should feel encouraged to develop and pursue activities which capitalize on their own creativity and individual needs.

Much of the original format of this guide was completed by John Hug, Mary Hurlbut, Roy Okan, and Dr. Don Randall, former members of the Clear Lake Camp staff. Help and suggestions have been continually given by teachers, principals, and other staff personnel.

The entire content of this guide have been revised and rewritten to allow each teacher to be more fully informed of the many resources available at Clear Lake. It is hoped that it, in itself, will be a valuable aid to each teacher.

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PHILOSOPHY UNDERLYING OUTDOOR SCHOOL

The justification of an outdoor school program rests on certain basic tenets of present day education. These are:

I. The modern curriculum is developmental, based on real experiences that meet the needs of children and change their behavior patterns toward good citizenship and full individual life.

II. General education is aimed at a common core of learning necessary for each individual in a democratic society.

III. The modern school is concerned with the growth and development of the whole child in all areas of his living.

With these objectives in mind, it is logical to assume that the function of the classroom is changing and that educational experience must extend outward from the classroom as needs and experiences indicate, into areas where appropriate learnings can take place more naturally, more efficiently, and more effectively.

The modern school is doing this in various ways such as field trips, community studies, supervised play and recreation, school farms, and outdoor schools in a camp environment.

The outdoor school, then, should serve basically as a laboratory of the classroom group to meet some of the aims that are difficult to meet within the four walls of the school.

Areas in which the outdoor school in a camp environment can help meet functional needs:

I. Social Living

A. Camp life offers an experience in living together 24 hours a day with each other and teachers.

B. The nature of camp functions offers many experiences in cooperative learning between person-person, group-group, group-teachers, teacher-teacher, teacher-college counselor.

C. It can contribute to the social growth of individuals as they experience the responsibilities and social interchange of a group living together as a unit.

D. The experiences of eating, working, sleeping, and living together offer many opportunities for growth in the social amenities, understanding of other people, and intercultural relations.

E. Camp life offers children a chance to live for a while in different social situations with their peers. Many of the functions of society are not available to

children until they reach certain maturity levels, yet they must have chances to practice in society.

II. Work Experiences

A. Modern specialization has left little chance for children to contribute useful work to family or community. Camp, because it is a simple society, returns to children the right to do useful work which is immediately necessary to the welfare of the group and of the camp community.

B. Work habits connected with daily living are cultivated.

C. Acquaintanceship with some of the manual labor connected with outdoor living is gained. Consequences are felt and understood immediately.

III. Healthy living

A. Camp life exposes children to a healthy balance of outdoor activity, work and recreation.

B. Camp life offers chances to observe and correct health habits of children in all phases of their living.

C. Camp life introduces some children to three well-balanced, regular meals a day and all the learning possibilities inherent in a positive approach to eating habits.

D. Camp life introduces children to recreational and outdoor activities that have carry-over value to healthful living all through life.

E. Camp life abounds with opportunities to observe and interpret the mental health of children.

F. Camp life opens up many learning experiences in the field of nutrition, learnings which the children of today so badly need.

IV. Outdoor Education

A. An outdoor school enriches classroom work in areas of science and nature.

B. Conservation of natural resources is a critical national problem. Units in conservation and acquaintanceship with our resources can help the school in meeting with this problem.

C. Children can have some of man's basic experiences and gain through real contacts a greater understanding of, and appreciation for, nature.

D. An outdoor school can help satisfy the needs for adventure and activity that modern society is making more and more difficult for children to experience.

V. An invaluable extension of the classroom

The outdoor school can fulfill a need in curricular areas for vitalizing certain aspects of these areas by direct experience.

A. Such studies center around conservation, early Michigan history, natural resources of Michigan, nature study, and science. For example, a class having studied natural resources of Michigan in school comes to the outdoor school ready to discover firsthand some of the resources about which they have been reading. Their experiences might include:

1. Finding sandstone and limestone rocks
2. Exploring gravel pits
3. Finding marl and muck quarries
4. Watching a saw mill operate
5. Visiting a farm woodlot

B. Studies in health

A class having studied foods might come to camp and participate in the following experiences:

1. Planning cookout menus, computing cost per person, checking for the seven basic types of food that make up a balanced diet.

2. Talking with camp dietitian about the camp meals and how a menu is made. Learning that a good diet does not necessarily mean expensive food, etc.

3. Exploring the various methods of food preservation and proportion.

4. Finding out about seasonal foods and wise buying.

C. Social Studies

A class may study the Battle Creek community and its services while at school. Their outdoor school could consist of these types of experiences to build their concept of community.

1. Comparing the Clear Lake community with the Battle Creek community

2. Having the firsthand experience with the community services of the camp such as water supply, fire equipment, sewage disposal, etc.

3. Exploring the small town of Dowling, finding out about comparing the kinds of services offered; finding out various ways communities of different sizes solve their problems.

4. Exploring the farm community as a community and discovering how it ties in with the urban community.

Another example might be that of a fourth and fifth grade studying maps and geography in school. Their camp experiences would involve such activities as:

1. Actually exploring surrounding countryside with maps and compasses.

2. Making several kinds of maps of the area.

3. Learning about scales on maps and distances on the ground by measuring and pacing.

4. Finding bench marks, sectional and township lines, etc.

D. Developing and using skills

The outdoor school offers experiences requiring the use of various skills to meet real needs of children such as:

1. Letter writing to parents and friends.

2. Operating bank, store, and post office.

3. Doing reference-type reading in camp library so that their camp experiences have deeper meanings.

4. Keeping weather station records, making reports for council fire, writing logs to be taken back to school, cataloguing specimens, recording questions provoking further study, etc.

TO CLASSROOM TEACHERS AND CAMP STAFF

When camping at Clear Lake is viewed as an extension of the class room as well as of the home and the immediate neighborhood, parents, classroom teachers and outdoor school teachers are bound to search out almost unlimited opportunities for learning which are especially evident in this particular simplified environment.

Middle grade boys and girls welcome becoming better and more richly acquainted with the many factors in their physical environment. Research[1] shows that these years can be particularly fruitful ones for capitalizing upon and setting the circumstances to build seeking behavior, forward-reaching and out-reaching behavior. Because boys and girls are able to cope with the ideas, their interests center mainly around investigating more intensively the "why" and "what" of the here and now. They seem to need to find out how these things come to be and begin dreaming of what they can become. They are working at the task of figuring out their places in the cosmos. They are growing themselves up. They are differentiating more clearly between reality and fantasy.

The Outdoor School experience, when it is skillfully and thoughtfully utilized, can contribute uniquely to the following:

I. To the development of intellectual powers toward which middle graders are reaching.

II. To the building of awareness within children of the values, skills, and understandings which constitute these intellectual powers

The following are some intellectual abilities which can be developed in varing degrees:

I. To perceive more fully and clearly

II. To verbalize what is perceived

III. To analyze factors in a simply structured situation

IV. To recall related learnings from past experiences

V. To know what constitutes a pertinent problem

VI. To define a pertinent problem

VII. To compare and to contrast

VIII. To find similarities and differences

IX. To recognize cause and effect

[1] Blair, Arthur and Burton, William, Growth and Development of the Preadolescent, 1951, Appleton-Centry-Crofts, Inc.

X. To understand and to experience a complete process

XI. To see relationships and interrelationships within system in nature

XII. To know the process of problem-solving

XIII. To arrive at generalizations from enough real specifics

XIV. To find relevant questions and information

XV. To sort out the irrelevant from the relevant

The descriptions of learning experiences which follow are offered as resources to teachers to aid them:

I. In planning for children's learning

II. In planning with children for their learning

The outdoor school teachers are resource people available as co-leaders who have most of the technical knowledge suggested in many of these experiences. These teachers work in classrooms previous to the camp period, during the camp period, and are available for work with interested parent groups.

LANGUAGE ARTS ACTIVITIES

CAMERA HIKES

I. TIME

Enough to allow for leisurely taking of pictures so most satisfying results will occur. One activity period is sufficient.

II. DESCRIPTION OF ACTIVITY

An activity the aim of which is to furnish campers an opportunity to secure meaningful photographs of their camp life.

III. EQUIPMENT

Each child uses his own camera, one which operates simply. No processing is possible.

IV. SEASONAL AVAILABILITY

Activity can be conducted throughout the year except on very cold days in winter.

V. LEARNING POSSIBILITIES

A. Techniques of taking a good picture

1. Knowing the camera
2. Handling the camera
3. Composition of the camera
4. Lighting and its relation to photography
5. Appreciation of beauty
6. Development of imagination as to what makes good composition for a picture
7. Appreciation of more aspects of nature
8. Knowledge of nature

B. How to construct a simple camera

C. Why are there large photo-finishing companies? Why are these cheaper than hand finishing?

D. Other values

1. Lasting enjoyment

2. Opening up possibilities of a hobby

3. Good use of leisure time

VI. <u>POSSIBLE IMPLICATIONS FOR CURRICULUM</u>

A. Opening up an interest in chemistry

B. Developing a hobby

C. Furthering interest and understandings in nature study

DRAMATICS AND STUNTS

I. PLACE

Almost any place indoors or out. Recreation room and campfires are frequently used.

II. DESCRIPTION

Dramatics may range from simple story telling through dramatization of stories and songs to production of play, perhaps original and pertaining to work at camp. The short time at camp makes memorization of lines virtually impossible. Stunts are dramatizations of humorous incidents or situations. Informal, creative dramatics are best suited to camp. Dramatics might include such things as an Indian ceremonial or a play, a play about pioneer life, a play of foreign life, etc. Stunts are purely fun, activities during which no person or group is ridiculed. Charades are often used. Children often enjoy paper bag skits.

III. EQUIPMENT

No special equipment is necessary other than very simple things which are available in the lodge. Imagination and ingenuity on the part of the children, will produce necessary props in terms of what the stunt, the skit, or the play demands in order to put its point across.

IV. LEARNING POSSIBILITIES AND SUGGESTIONS FOR FURTHER RELATED CURRICULAR WORK

A. Self-confidence within or before a group when something is being done for the group members

B. Creativeness may be brought out

C. Self-expression may be encouraged

D. Ingenuity is stimulated and imagination developed

E. Social poise may be gained

F. Artistic appreciation may be derived

G. Opportunities for vicarious experiencing of many activities

H. Sympathy and understanding of various types of people are engendered

I. Necessity for, and benefits of, cooperation in a group endeavor

J. Some rudiments of stage technique and acting may be gained

K. Sociodrama may focus attention on group actions

Example:

> A poorly done situation may be dramatized so that the group members may analyze it for better ways and thereby be able to change their own behavior in later situations they face.

L. Factual knowledge of people involved in stunts and plays gives children ways of knowing their peers under varying circumstances

M. Manual dexterity may be increased through making props

N. Making of plans and coordinating of plans in producing a play

O. Recognition of abilities, values, expectations of others may be learned

P. Group status may be attained

Q. Teachers may gain extensive insights into personality, into values, into feelings, into abilities, of students through observing not only the acting, but the planning, etc., if they as teachers maintain a diagnostic frame of mind and really favor the arisal of spontaneous situations.

MATHEMATICS AND MEASUREMENT ACTIVITIES

DROP-OFF HIKE

I. DISTANCE

One to five miles depending on weather conditions and the amount of time available.

II. DESCRIPTION OF ACTIVITY

With the aid of a compass and a map children attempt to find their way back to Clear Lake from an unknown point several miles distant from the camp area. In preparation for and execution of the activity the following format is usually followed:

1. In an out door school classroom the outdoor school teacher conducts an orientation which acquaints children with the purpose of the activity, the procedure to be followed, and the correct methods of using the map and compass.

2. The children are divided into small groups with either a teacher or a student counselor being assigned to accompany each group.

3. When boarding the bus, each child is given a blindfold as an aid in becoming lost.

4. Each group is transported away from the camp area and is "dropped off" at a different point.

5. Utilizing newly acquired skills each group attempts to solve the basic problem at hand, i.e. finding their way back to the camp.

III. EQUIPMENT AVAILABLE

A. Pathfinder compasses

B. Maps of Barry County

C. Pedometers

D. Blindfolds

E. School bus

IV. SEASONAL AVAILABILITY

Drop-off hikes can be conducted anytime throughout the year except during inclement weather in winter when roads are impassable.

V. LEARNING POSSIBILITIES

A. Maps and mapping

1. Kinds of maps: road, topographical, aerial
2. Method of land division: states, counties, townships, sections (variations in different sections of United States)
3. Common direction of fences in Barry County and elsewhere
4. Measuring distances by sections on count maps
5. Map symbols; map scales
6. Map making; pacing, use of compass, landmarks, sketch pads
7. Using both a map and compass as aids in hiking to a chosen but unknown spot
8. Locating oneself when at an unknown spot

B. Compass

1. History of the compass
2. Principle of the compass: a magnetized object is freely suspended so that the earth's magnetism will cause the object to point to the magnetic North Pole
3. Directions, significance of the circle, degrees
4. Theory of magnetism: what a magnetic needle is
5. The compass needle points north
6. Orienting a compass: to orient a compass, turn it until the north end of the needle points to a

letter N on your compass. If you use a floating dial type compass, the letter N is always north

C. How to use a compass

1. To find a predetermined direction (viz. 90°) using a Silva compass: Set the needle housing so the 90° line coincides with the "direction of trave" arrow; hold the compass with the "direction of travel" arrow pointing straight in front of you; turn on your foot until the red end of the magnetic needle points to the letter N on top of the housing. At this point you are facing the correct direction

2. To find the direction of a specific point (viz. a tall pine tree): Face the object with the plastic "direction of travel" arrow pointing toward it; turn the compass housing until the red end of the magnetic needle points to the letter N on the housing; the "direction of travel" arrow now coincides with the degrees of the desired direction

3. Adjusting for magnetic declination and variation

4. Azimuth, a term which means "the way". The 360 degrees marked on the compass dial represent 360 ways to go. Each is a magnetic azimuth direction. To "take an azimuth" simply means to find the degree of the direction to a specific point. "Black azimuth" is determined by adding 180° if the azimuth reading is under 180° or subtracting 180° if the azimuth is over 180°. "Black azimuth" enables one to return to the original starting point

5. How to use a compass to travel between two points: Sight in the desired direction of travel. Choose two landmarks on the line of desired direction. Walk to first landmark. Sight to second landmark on same compass direction and again choose a landmark farther along the same line of travel. By continually repeating this procedure, deviation from the correct direction of travel will be avoided.

6. Determining N by:

   a. Using watch as compass

   b. Magnetizing an ordinary needle

   c. Noting direction of local watershed and prevailing winds

   d. By sun

   e. By stars

7. Compass games

   a. Face in direction specified by leader. From a specified point take direction to any number of designated objects

   b. Bee-line hike: Choose a point on the map and follow the azimuth straight to the objective

NATIVE ARTS AND CRAFTS ACTIVITIES

FINDING AND WORKING WITH CLAY

I. TIME

Clay can be gathered in about one hour; in addition at least one full activity period in the craft room is needed.

II. DESCRIPTION OF ACTIVITY

Clay may be dug and taken from nearby farm fields, worked, and molded into objects to be fired in the kiln.

Clay work done at the outdoor school will be fired in the camp kiln and returned to the buildings for glazing and final firing.

III. EQUIPMENT AVAILABLE

A. Shovels for digging

B. Number ten cans

C. Newspapers

D. Kiln

IV. SEASONAL AVAILABILITY

May through November

V. LEARNING POSSIBILITIES

A. Sources of clay

B. Nature of clay

C. Using clay

1. Refining the clay
2. Working the clay to proper consistency
3. Molding clay
4. Baking clay

VI. POSSIBLE FURTHER IMPLICATIONS FOR CURRICULUM

A. Interest in other natural resources and their uses by man

B. How pottery industry has developed from primitive stages through modern commerical concerns

C. Interest in early industries

D. Creative artistry as it is related to pottery making today

E. Artistry as expressed by the Indians in their pottery contributions of art to a total culture

WORKING IN THE CRAFT ROOM

I. PLACE

The craft room is a large work area in the basement of the lodge where various types of indoor activities may be carried on.

II. DESCRIPTION OF ACTIVITY

The primary focus of working in the craft room is learning how to use native materials in arts and crafts projects. Since wood can be gathered and used in all seasons, it is the most widely used material. However, many other forms of nature such as sand, rocks, plants, and seeds can be utilized.

When children desire to work in the craft room, the outdoor teacher presents a summary of activities for which needed supplies are available. Very often many of the activities tend to be seasonal in nature.

Any equipment needed by a group to carry out in camp a special project planned in relation to class work should be brought by that group to insure having the proper materials immediately available.

III. EQUIPMENT AVAILABLE

A. Simple carpenter tools

B. Tables and benches for construction and carrying out activities

C. Space for keeping various kinds of native materials to be used in crafts

D. Some simple art materials

E. Wood and wood burning utensils

F. Jack-knives

IV. LEARNING POSSIBILITIES AND SUGGESTIONS FOR FURTHER CURRICULAR WORK

A. Planning for and executing ideas

B. Becoming acquainted with the characteristics and possible uses of native woods

C. Making worthwhile and decorative objects from native materials such as wood, clay, grasses, berries, mosses, etc.

D. Developing a working familiarity with basic tools and their safe usage

E. Understanding better how Indians and pioneers in Michigan learned to be resourceful in using things in their natural environment

RECREATION AND OUTDOOR SPORTS ACTIVITIES

BOATING

I. LOCATION

Clear Lake

II. EQUIPMENT AVAILABLE

A. Ten rowboats with oars attached. The boats contain three seats. They have flat bottoms which makes them difficult to tip.

B. Forty life preservers in both children and adult sizes.

III. GENERAL PROCEDURE AND SAFETY PRECAUTIONS

A. Safety is of prime importance in using the boats. Children must review safety precautions each time before using the boats.

B. Children must remain seated at all times while in a boat.

C. Children must wear life preservers while in boats.

D. Boating may be structured as an instructional and/or recreational activity or may be used as a means of travel to points across the lake.

E. All forms of boating activity is conducted under strong supervision by adults.

IV. SEASONAL AVAILABILITY

Boating begins about April 1 and ends about November 20.

V. LEARNING POSSIBILITIES

A. Proper way to enter a boat

B. How to shove off from shore

C. How to sit in a boat and keep it balanced

D. Identifying the stern, bow, gunnel or gunwale

E. How to row

F. How to turn

G. Beaching a boat properly

H. Why a boat floats (displacement of its own weight)

I. Awareness of and practice of safety

J. Uses of boats for recreation

K. Uses of boats for making a living

VI. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Open up possibilities for thinking in terms of self-development and the place of recreation in balanced living.

B. Understanding more about water transportation.

C. Science learnings

1. Displacement of weight causes an object to float

2. Principle of leverage

3. Principle of inertia

4. Principle of momentum

5. Principle of friction

COOKING OUT

I. TIME

Total time needed varies from 3-6 hours depending upon amount of preparation needed and the nature of the meal.

II. DESCRIPTION

A. Children plan a menu for, carry out adequate preparation for, and eat, as a group, a well balanced meal which will fit into the total day's nutritional needs.

B. Many cookout sites available in camp area; children choose a site in accordance with weather conditions and time available.

C. Campers may make their own sites, taking into consideration fire hazards, rights of way, camping etiquette, etc.

III. EQUIPMENT AVAILABLE

A. Large frying pans, mess kits, cups, plates, silverware, tin cans

B. Jack-knives, axes, and saws

C. May be makeshift: tin can stoves, sticks for cutlery, leaves for plates, green twigs for grills

IV. SEASONAL AVAILABILITY

Cookouts can be conducted throughout the year

V. LEARNING POSSIBILITIES

A. Normal nutrition

B. Arithmetic

1. Budget planning by setting a reasonable maximum cost level and working within this

2. Cost

3. Portions

C. Science

1. Food preservation as found in canning, salting, freezing

2. Food production: those produced locally, commercially, or in the home. This may include related studies of climate and soil.

3. Food spoilage: reasons and results both from the health and economic points of view. This may include related studies of bacteria and molds.

4. Effects of specific food elements on total body development

D. Social Studies

1. Problems relating to food production, processing distribution and transportation throughout the community or world

2. Racial and religious food habits

3. Food habits in relation to economic status

E. Camping skills

F. Cooking methods

G. Group work and fair division of labor in cooperative endeavor

DANCES AND PARTIES

I. PLACE

Recreation room of Lodge

II. DESCRIPTION OF KINDS OF DANCE

A. Popular dancing can be carried out with conventional "dance band or rock-n-roll" music on records.

B. Folk dances which include regional dances of the United States and various nationality dances with or without recorded music, can be performed in groups or partners.

C. Square dances can be called by staff members.

D. Play-party dances can be done by the entire group. Partners may or may not be needed. Music is not necessary. These dances are usually accompanied by singing. They are excellent for mixers and ice-breakers.

III. EQUIPMENT

A. Camp record player

B. Square dance records

C. Folk dance records

D. Piano

E. Equipment for making and serving refreshments

IV. LEARNING POSSIBILITIES AND SUGGESTIONS FOR FURTHER RELATED CURRICULAR WORK

A. Knowledge of the dance as a form of recreation which is an important part of every culture, whether the culture is primitive or complex.

B. Opportunities to develop social ease and poise and self confidence with members of the opposite sex at ages and in settings when these are easily learned

C. Learning new forms of enjoyment

D. Learning acceptable social graces

E. Realizing the value of being able to dance

F. Appreciating rhythm

G. Knowing more about America's musical heritage

H. Understanding and appreciating folk life and music as they relate to intercultural relations

I. Opening up possibilities for enjoyment and for building group solidarity

J. Developing motor coordination

K. Developing mechanical skills while making instruments

L. Learning how to plan a dance and serve as host or hostess

M. Learning how to teach dancing

N. Learning how to plan, make, and serve refreshments

FIRE BUILDING

I. TIME

Depends on purposes developed with campers

II. DESCRIPTION OF ACTIVITY

This is an excellent activity in preparation for the fire building portion of cookout. Children gather various kinds and shapes of woods and construct various kinds of fires.

After instruction, children may divide into small groups for a fire building contest.

III. EQUIPMENT AVAILABLE

A. Wood and kindling

B. Matches

C. Axes and saws

D. Jack-knives

IV. SEASONAL ACTIVITY

Fire building can be conducted throughout the year.

V. LEARNING POSSIBILITIES

A. Knowing different kinds of woods; which woods burn well

B. Considerations in the choosing of a site for fire building

C. The nature and using of tinder and kindling

D. Principles of fire-making

E. Types of fires

1. Wigwam

2. Crisscross

3. Cooking fires

a. hunter- trapper

FISHING

I. TIME

From one to three hours depending upon weather conditions

II. DESCRIPTION OF ACTIVITY

A. Fishing with home-made equipment

Children start from "scratch" and make their own equipment by cutting sumac poles or finding a suitable dead stick to which they attach string, a hook, and a sinker. Worms are dug in the worm bed or other types of bait such as grubs and larvae are gathered. Fishing is done along the shore line of the lake or from the docks.

B. Fishing with manual equipment

Some children bring their own poles from home; other children may borrow a pole from the camp lodge. Hooks and bait need to be attached. No fishing is permitted from boats.

III. EQUIPMENT AVAILABLE

A. Spinning Rods

B. Hooks, lines, sinkers

C. Bait (that is found naturally in the camp area)

D. Saws and axes to cut wood poles

IV. SEASONAL AVAILABILITY

April through November

V. LEARNING POSSIBILITIES

A. Locating and identifying different types of bait according to the season

1. Winter: wood grubs and galls

2. Other seasons: worms, crickets, grasshoppers

B. Where do fish feed?

C. What do they eat?

D. What are the feeding habits which will help in catching them? (Much of this type of information can be investigated before coming to camp.)

E. What are the fishing seasons? What are game laws? Why are game laws necessary?

F. Finding out what skills are necessary to fish properly

   1. Proper way to hook the bait

   2. Cleaning a fish

G. Learning about the fish's body

   1. Identifying parts of the body

   2. Learning the function of the gills, fins, tail and other parts of the body

   3. Identifying lungs, heart, stomach, intestines, etc.

   4. Gaining some knowledge of the physiological systems in fish

H. Learning about and practicing safety precautions if fishing from a boat

ICE FISHING

I. PLACE

Specified areas on Clear Lake

II. DESCRIPTION OF ACTIVITY

Some children bring poles from home. However, most children construct their own by adding line, a hook, and a sinker to a wooden stick. Bait is gathered from under fallen logs, in insect galls, or in old corn shocks.

Holes are cut in Clear Lake by the children. The entire activity lasts from one hour to two hours depending upon weather conditions.

III. EQUIPMENT AVAILABLE

A. Bait: wood grubs, golden rod gall grubs, or corn borers

B. Sticks for all bait needs to be gathered by the children, fishing poles, line, hooks and sinkers

C. Can for fish

D. Spud or other tool for cutting hole in ice

IV. SEASONAL AVAILABILITY

Winter activity; lake is usually frozen solid enough for ice fishing during January and February only.

V. LEARNING POSSIBILITIES

A. Kinds of fish available

B. Types of fishing equipment and proper care of them

C. Crafts: Making fishing poles

D. Speed at which water freezes and its relation to ice thicknesses

E. Effect of wind on the open fishing hole

F. Types and care of fishing bait; where they are found

G. How to dress for ice fishing

H. Developing an interest in ice fishing as recreation

I. Learning how primitive peoples fished through the ice

ICE SKATING

I. PLACE

Specified areas on Clear Lake

II. TIME

As much as a group would like to spend; depends greatly on weather conditions.

III. DESCRIPTION OF ACTIVITY

Preparation and type of skating depend upon snow and ice conditions. When there is snow on the ice, campers must clean the snow for a skating rink. When ice is too rough for skating, flooding an area on the ice surface to obtain smooth ice can be done by the campers. When good skating over the entire lake is possible, the individual group can decide where it will skate. The lake is used for ice fishing and ice cutting, necessitating care in selection of skating sites and routes. Ice at the lake edge and in swamps is generally thinner than that farther out.

IV. EQUIPMENT AVAILABLE

None: campers must bring their own skates

V. SEASONAL AVAILABILITY

December, January, February

VI. LEARNING POSSIBILITIES

A. Forms of matter: liquid, solid, gas

B. Expansion and contraction

C. Freezing and thawing

D. Friction and heat

E. How the ice skate functions

F. Grinding and caring for skates

G. Rust and its cause

H. Rust prevention

I. Different kinds of skates and their purposes

J. Health aspects of skating

1. Circulation of blood in the body, especially as it concerns the feet and lacing of skates

2. Keeping warm; clothing and exercise

3. Muscle development

4. Sweating and evaporation

K. Momentum and inertia

L. Centrifugal and gravitational force

M. Principles of stability

N. Cause of ice pressure ridges and cracks

O. Why a lake freezes from the top down, and its effect on life on the earth

P. Reflection and absorbtion of heat and light, and the eyes and snow blindness

Q. History of skating as a means of transportation

R. Safety

1. Ice thickness

2. Kind of ice and how formed (honeycombed ice, etc.)

3. What to do in an emergency

MAKING ICE CREAM

I. TIME

Approximately one hour

II. DESCRIPTION OF ACTIVITY

A hand-operated ice cream freezer is kept in the lodge. Children mix together the necessary ingredients and put them in the freezer. During the winter months ice is taken from the lake, cracked into small pieces, and slowly fed into the freezer as it is cranked by children. During other seasons the camp provides the necessary ice. Each child is able to take his turn cranking. Most groups allow their ice cream to "freeze" for a day and plan a later ice cream party.

III. EQUIPMENT AVAILABLE

A. Ingredients

B. Salt

C. Ice

D. Ice cream freezer

IV. SEASONAL AVAILABILITY

Activity can be conducted anytime

V. LEARNING POSSIBILITIES

A. Awareness of habits and skills of good food handlers

B. Necessity for following a recipe closely

C. Accurate measurement of ingredients

D. Knowledge of how food is stored in large quantities

E. Knowledge of preservation of food

F. Primitive way of making ice cream

G. Division of labor and group planning

H. Physical changes which take place under various temperatures

I. The effect of salt upon ice

VI. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Further interests in foods

B. Chemistry of food - organic chemistry

C. Physical properties of heat and cold

OUTDOOR LAND GAMES

I. PLACE

Front lawn of camp or nearby fields

II. DESCRIPTION OF ACTIVITY

These games are usually the type in which a whole group may participate. They range from pioneer and Indian games through scavenger hunts and treasure hunts. They include relatively few (such as volley ball and horseshoes) that may be played in the city or at school. Emphasis is usually on games that may teach about pioneer or Indian life. Examples are Pioneers and Indians, Capture the Flag, or a nature scavenger hunt.

III. EQUIPMENT AVAILABLE

A. Flags

B. Armbands

C. Whiting

D. Whistles

IV. SEASONAL AVAILABILITY

These games are primarily geared for spring and fall months; however, there are appropriate outdoor games that can be played in the snow in winter

V. LEARNING POSSIBILITIES

A. Social learnings

1. Cooperation
2. Sportsmanship
3. Give and take
4. Consideration
5. Respect
6. Status
7. Taking responsibility
8. Wholesome boy-girl relationships

B. Knowledge of life of people from whom the game is adopted

C. Knowledge of pioneer recreational activities

D. Relationship of recreation to facilities. An example could be to learn how to make your own recreation out of natural surroundings

E. Knowledge of many different aspects of nature such as rocks, plants, flowers, etc.

F. Application of imagination and ingenuity to adapt various resources to new uses

G. Value of recreation

H. Comparison and contrast of recreation possibilities in the city and in country areas

I. Physical development

J. Begin to achieve a sense of the values in balancing work with play

TREASURE OR SCAVENGER HUNTS

I. TIME

Usually two to two and a half hours including time for preparation

II. DESCRIPTION

A. Treasure Hunt: Involves preparation, placement, and following of several clues designed to lead searching party to a "treasure" at the end. A variety of materials may be employed such as a compass, maps, pictures, and limericks.

B. Scavenger Hunt: Consists of searching for and collecting a list of objects designed to develop the participants' powers of observation and knowledge of their natural environment.

III. LEARNING POSSIBILITIES

A. Common to both:

1. Development and application of imagination
2. Development and application of reasoning powers
3. How to work as a group
4. How to use nature as recreation
5. How to be a good sport

B. Treasure Hunt:

1. How to follow directions
2. How to use the compass
3. Knowledge of communication through pictures
   a. Indian and primitive picture writing
   b. Evolution of written communication
   c. Natural objects

C. Scavenger Hunt:

1. Knowledge of different nature areas (if nature objects are used)

2. Trees, rocks, flowers, wild animals, etc.

IV. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Provides an experience from which children can analyze what contributes to the enjoyment of a situation and consequently they can plan other such situations for themselves.

B. May lead to further studies in these areas:

1. Communication

2. Living of primitive man

3. Uses of symbols

4. Development of symbols

5. Exploration of what nature tells us

SCIENCE AND CONSERVATION ACTIVITIES

BUILDING A TERRARIUM

I. EQUIPMENT AVAILABLE

A. Gallon glass jars with lids

B. Tin cans for collecting plants and soil

II. GENERAL DESCRIPTION OF ACTIVITY

Terrariums can be constructed from various kinds of plants and soils and may be taken back to the classroom for further study. Children gather plants, animals, and soils in the field and bring them back to the outdoor school for assembling and identification.

III. SEASONAL AVAILABILITY

Mid-April through mid-October

(Terrariums develop best when started in the spring but will develop if done carefully in the fall.)

IV. LEARNING POSSIBILITIES

A. Selecting plant life suitable for the terrarium

B. Differences between ferns, mosses, and wildflowers

C. Composition of soil

D. Identifying plant life

1. Wildflowers of spring, summer, fall

2. Parts of a flower and their functions in its growth

3. Seeds, how they are transported

4. Study of root systems

V. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Study of plant life

B. Plant and animal cycles

C. Balance in nature

D. Interdependence of plant and animal life

EXPLORATION OF A GRAVEL PIT

I. LOCATION

The gravel pit is located off M-37 near Dowling. Hiking time is about 20 minutes.

II. DESCRIPTION OF ACTIVITY

The gravel pit is a large excavated area from which gravel has been extracted for several years. A truck lane leads down into the center of the pit. Children can dig and explore in the area finding a good assortment of various kinds of rocks that have been glacially deposited in the area. Fossils can usually be found. Specimens can be collected and brought back to the outdoor school classroom for assembling, polishing, and further study.

III. EQUIPMENT AVAILABLE

A. Shovels for digging

B. Geologist's hammers to break off specimens

C. Tin cans or knapsacks to carry specimens in

D. Field books on rocks and minerals

IV. SEASONAL AVAILABILITY

April through November, although the area can be visited during the winter months when snow is not deep.

V. LEARNING POSSIBILITIES

A. How rocks are formed

B. Three main classifications of rocks

C. Weathering of rocks

D. How rocks are broken up to form soil

E. Minerals

1. What are they

2. Where to find them

F. Composition of rocks

G. Time element in the development of a rock

H. Nature of constant changing of the earth

I. Collecting and identifying rocks

J. How to identify rocks

1. By color

2. By hardness

3. By fracture

4. By structure

VI. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Composition of the earth

B. Formation of soil

C. Nature of the earth's surface

HIKE TO MYSTERY SWAMP

I. LOCATION

The swamp is located on the Outdoor Education Center property loss than one half mile from the lodge.

Hiking time to the swamp is about 20 minutes.

II. DESCRIPTION OF SWAMP

Mystery Swamp is located in a field depression, a remnant of glacial times. It is very long and narrow, stretching out for nearly one third of a mile. The swamp has been named Mystery Swamp due to the fluctuation of the water table. It's water level is entirely dependent upon normal rainfall and surface runoff from adjacent fields. During long extended periods of below normal rainfall the area has become almost completely dried up, hence the "mystery" of the swamp.

The entire swamp is rimmed with an edge of trees and shrubs. There are also many bushes and shrubs growing in the water. The area is abundant with wild life with birds, frogs, and insects being the numerous forms.

There is a trail around the entire edge of the swamp. During the winter when the ice is frozen thick, children can hike out into the area.

III. DESCRIPTION OF ACTIVITY

Depends upon the purposes of the class. The swamp is an excellent area for a nature hike to better understand life in a swamp or wetland area. It is an excellent area for collecting insects or water samples that contain microscopic life.

IV. SEASONAL AVAILABILITY

Can be visited throughout the year

V. EQUIPMENT AVAILABLE

A. Number ten tin cans

B. Insect collecting nets

C. Water dip nets

D. Bioscope

E. Microscopes

VI. THINGS TO SEE ALONG THE WAY

A. Deciduous woodlot community

B. Glacial moraine topography

C. Hay Pasture

D. Orchard

E. Erosion and gullying

F. Cultivated fields

G. Field community (birds, weeds, etc.)

VII. LEARNING POSSIBILITIES WITH IMPLICATIONS FOR FURTHER RESEARCH

A. Geological origin of the swamp and its age

B. Indicators which show that swamp is undergoing change

C. How and in what ways a swamp changes

D. Kinds and function of submerged vegetation and animal life

E. Kinds and function of floating vegetation and animal life

F. Kinds and function of partially emerged vegetation and animal life

G. Kinds and function of shoreline vegetation and animal life

H. Kinds and function of lowland vegetation and animal life

I. Kinds and function of upland vegetation and animal life

J. How various plants and animals are adapted to life in their particular habitats

K. Productive value of swamps: muskrats, etc.

L. Soil formation

M. How plants and animals live together and are dependent upon each other

N. Nature and value of decay

O. Balance in nature

P. Geological history of the area

Q. Future geology of the area

R. Time involved in natural change

S. Effect of logging and agriculture on swamps

T. Swamps and migratory water fowl

U. Swamps and health, mosquitoes, yellow fever, etc.

V. Differences between plants and animals

W. Swamps and water temperatures

VISIT TO A SPHAGNUM BOG

I. LOCATION

The sphanum bog can be entered about 1000 feet west of the western shoreline of Clear Lake directly across the lake from the lodge.

II. TIME REQUIRED FOR THE ACTIVITY

Approximately two and one half hours will be required to complete a visit including the time needed to row across the lake, explore the bog, take samples, make measurements etc.

III. DESCRIPTION OF THE BOG

The bog represents one of the final stages in the evolution of a post-glacial lake to a near land condition. About six to eight thousand years ago this low lying area was filled with the cold melt waters of the retreating edge of the last great ice sheet that began its advance over North America approximately 100,000 years ago.

As the glacial retreat continued, the lake's water grew warmer and aquatic vegetation, both floating and bottom dwelling types, began to flourish. In the course of several thousand years the annual cycle of vegetation growth and death, and subsequent sinking to the bottom only to be covered by more plant remains, began to produce a thick brown layer of partially decomposed material called muck.

The muck layer continued to increase in thickness until the lake bottom was within a few feet of the surface. At this point several types of marsh shrubs were able to establish a foothold and flourish, thus contributing to an even more rapid filling of the now shallow water. Eventually either a prolonged dry period or continued buildup of the bottom caused the old lake bed to be exposed to the air, and a forest (probably northern white cedar) established itself. Remains of this extinct forest can still be found about two feet below the present bog surface.

The cedar forest then disappeared and marshland shrubs along with sphagnum moss began to thrive on the old forest floor. Once again the old lake floor began to rise rapidly. Today the present bog is covered with living sphagnum several inches thick. Tall marsh shrubs, including blueberries, crowd the area, and an occasional deciduous tree has found a

place in the bog floor which is now high and dry enough to suit its needs.

The bog is very spongy and will actually bounce in places under the weight of children walking across the surface. The bog is passable in all seasons except during the wet spring months when the water table comes to the surface and creates many small pools and sloughs in lower areas.

IV. EQUIPMENT AVAILABLE

A. Small shovels for digging into the bog floor

B. Tin cans (#10) for collecting the extinct forest fragments and sphagnum moss

C. Coring tools to sample the layers of the bog and determine the original depth of the lake

V. SEASONAL AVAILABILITY

The bog will be best for visiting during the dryer fall months into early winter until the average daily temperature drops to freezing and snow begins to cover the surface features.

The spring months are satisfactory if the seasonal rainfall is light.

VI. LEARNING POSSIBILITIES

A. The origin of Michigan's many lakes and marshes

B. The evolution of present southern Michigan's lakes and their eventual fate

C. The story of ecological succession: how plant communities change through time

D. A portion of the story of the most recent ice age that covered Michigan under almost 5000 feet of ice

E. Early folk medicine - great lakes indians used the sphagnum moss found in these kinds of bogs

F. The nature and importance of peat bog mining in Barry and other surrounding southern Michigan counties

G. The wildlife community unique to a marsh or bog

H. The importance of the bog in helping to maintain the level of nearby Clear Lake during dry periods

I. The story of the bog blueberry

VII. INSTRUCTIONAL THEMES THAT CAN BE DEVELOPED

A. "A Trip 8000 Years Into The Past" - Emphasis: Glacial history and origin of Michigan lakes

B. "A Visit To A Dying Lake" - Emphasis: Plant succession and lake evolution

C. "A Visit To Peat's Place" - Emphasis: Commercial peat mining industry

D. "Search For An Extinct Forest" - Emphasis: plant succession

E. "Clear Lake 5000 Years From Now" - Emphasis: Plant succession

WEATHER STUDY

I. DESCRIPTION OF AREA

The camp weather station is located along the lake shore in front of the lodge and is adequately equipped (see listing below). The instruments are housed in a standard sized shelter.

II. DESCRIPTION OF ACTIVITY

By utilizing available charts and taking accurate readings at the weather station children can successfully predict the weather and develop a forecast for the camp area.

III. EQUIPMENT AVAILABLE

A. Maximum-minimum thermometer

B. Barometer

C. Psycometer or hygrometer (wet or dry bulb thermometer)

D. Wind vane

E. Anemometer

F. Rain or snow gauge

G. Weather and cloud charts

IV. LEARNING POSSIBILITIES

A. Nature of heat and its sources

B. Difference between heat and temperature

C. Reflection and absorption of heat and light

D. Conduction, convection, and radiation

E. Cause and nature of air pressure

F. Air moisture content and relative humidity

G. Expansion and contraction of heated objects

H. Evaporation and condensation

I. Water cycle

J. Cause and nature of rain, snow, sleet, frost, fog, clouds, dew, hail, etc.

K. Winds: their causes, the earth wind systems, local winds

L. Weather and climate

M. Cloud forms

N. Types of storms

O. Thunder and lightning

P. Insulation (clothing, buildings, snow, leaves, etc.

Q. Weather as it affects the changing of the earth's surface

R. Weather and man

1. Safety and recreation

2. Health and comfort

3. Shelter and clothing

4. Agriculture

5. Transportation

6. Communication

7. Forest fire prevention

8. Floods and blizzards

9. Hurricanes and tornadoes

10. Plants and wildlife

S. Weather-forecasting and recording

1. Forecasting from local conditions

a. keeping weather chart

b. taking readings - may indicate using forest fire danger rating scale

c. making predictions

2. General forecasting

    a. United States Weather Bureau

    b. functions of weather stations

    c. station symbols

    d. reading, making, and using weather maps

3. Long range forecasting

    a. records

    b. cyclic nature of weather

    c. almanac predictions

T. The weather and local government (snow removal, road repair, etc.)

SOCIAL STUDIES ACTIVITIES

ICE CUTTING AND STORING

I. TIME

One to two hours depending on how much ice is cut and present weather conditions

II. DESCRIPTION OF ACTIVITY

Children explore lake for clear, thick ice that can be cut. The ice is cut and moved to a hole in a dry hillside away from the exposure of the sun where it is stored for later use.

Ice can be used for making home made ice cream.

III. EQUIPMENT AVAILABLE

A. Two canthooks

B. Two crosscut saws

C. Ice picks

D. Sleds to carry ice

IV. SEASONAL AVAILABILITY

Most of January and February when the ice on Clear Lake is at least 10 inches thick.

V. LEARNING POSSIBILITIES

A. Primitive way of cutting and storing ice

B. Effects of weather on water

C. Why does it freeze?

D. Why doesn't it freeze to the bottom?

E. Effect of plant growth in water
Question: Why does a swamp not freeze as quickly and as deeply as the lake?

F. Does water contract or expand when frozen?

G. Why are there so many large cracks on a frozen lake?

H. Safety factors in using tools

I. Use of the lever in prying ice

J. Further uses of the lever

VI. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Weather study

B. Chemical changes

C. Methods of food preservation

D. Study of simple machines

VISIT TO A DAIRY FARM

I. LOCATION OF FARM

Along M-37 about ½ mile south of the entrance road to the Outdoor Education Center

Hiking time is about 20 minutes each way.

II. DESCRIPTION OF FARM

Located along M-37 the entire acreage of the farm is devoted to the practice of modern dairy farming. The farmer maintains a herd of over 40 milking cows. There are almost always calves and young heifers in the barn.

The barn is large and is kept in clean condition providing an opportunity for children to view the entire story of dairy farming. Hay is stored on the second floor; a modern silo filled with silage adjoins the building. Fresh milk is stored in a bulk storage cooler in a separate room along with automatic milking equipment.

Farm machinery is stored in adjacent buildings.

During the growing season the cows are pastured in some of the adjacent fields, while feed crops such as hay and corn are grown in other fields.

III. SEASONAL AVAILABILITY

Farm can be visited anytime through the year

IV. EQUIPMENT NEEDED

A. None necessary

B. Children with flash attachments for their cameras can take pictures inside the barn.

V. DESCRIPTION OF THINGS ALONG THE WAY

A. Wildlife shelter plantings along the Outdoor Education Center entrance road.

B. Rolling, glacial topography

C. Roadside (seasonal changes)

D. Cultivated fields

E. Windbreak planting

F. Roadside trees

G. Pavement: breaks, expansion spaces, drainage, etc.

VI. LEARNING POSSIBILITIES

A. Effect of dairy farming on our lives

B. Implications of mechanization to farming

C. Dairy cattle, kind of cattle and their food, what a year of their life is like, milk production, upkeep.

D. Importance of cleanliness in dairy farming

E. How the various kinds of machinery operate

F. Good and poor farming practices

G. How the soil and topography affect dairy farming

H. How the seasons and weather affect dairy farming

I. Transportation and marketing of milk

J. Types of feed grains

K. Relationship of green plants to life on earth

VISIT TO AN ABANDONED FARM

I. HIKING TIME

Approximately forty five minutes each way

II. LOCATION OF AREA

About two miles from the camp area; children hike south along M-37 and east down the gently sloping hills of the farm area to the "abandoned" area.

III. DESCRIPTION OF AREA

This is a farm on the west side of Bristol Lake with an old orchard, hilly pasture lands, a lakeside swamp area, and a nearby woods. There are no large buildings. The basement remains of the farm house and the barn, an old windmill, and several small structures remain to tell a story.

IV. SEASONAL AVAILABILITY

Farm can be visited anytime

V. DESCRIPTION OF THE THINGS ALONG THE WAY

A. Wild flowers of roadside, fields, woods, swamps

B. Birds of woods, fields, water, barnyard

C. Trees and shrubs of woods and roadside

D. Pasture and cultivated areas

E. Farms and farm animals

F. Signs of erosion and erosion control

G. Swamps, wooded areas, unused fields

H. Glacial topography

I. Paved road

J. Effects of weather

VI. LEARNING POSSIBILITIES

A. Reasons for abandoning farm

B. How soil and topography affect farming

C. Good and poor farming practices

D. Signs of human endeavor to manage environment

E. Difference between domestic plants in cultivated and wild condition

F. Establishing sequence of dates of things that happened: when trees were planted, when farm was abandoned, when well was made, etc.

G. Conservation possibilities

H. Use of compass and map

I. Use of wind for pumping water

VII. POSSIBLE IMPLICATIONS FOR CURRICULUM

A. Study of land formations

B. Study of how man capitalized upon using certain factors in his natural environment

C. Further opportunities to see cause and effect relationships

VISIT TO DOWLING

I. LOCATION

Dowling is located on M-37 about 1½ miles north of the Center. Minimum hiking time is forty-five minutes.

II. DESCRIPTION OF AREA

Small rural village at crossroads. Typical of rural villages. Made up of a filling station, grocery store, restaurant, post office, village library, sawmill, church, and about twenty homes.

Until recent years the village was reminiscent of a typical Michigan village at the turn of the century with an active blacksmith shop and an old fashioned general store which contained the post office. However, the general store has been closed, the post office has moved to a new building, and the blacksmith has passed away.

The sawmill is still historically unique in that it is small and completely powered by steam engines. Located at the south edge of the village, it is operated in the open. Several steam engines can be viewed; children can readily understand how an engine supplies the power to operate the mill.

The post office is small. The postmaster will explain the operation and answer questions, children may mail letters and watch them being postmarked.

III. SEASONAL AVAILABILITY

The village may be visited anytime throughout the year. In case of sudden inclement weather shelter is available in the post office or library.

IV. EQUIPMENT NEEDED

None. Perhaps a camera

V. DESCRIPTION OF THINGS ALONG THE WAY

Whether hiking along the road or cross country children must pass by Mr. Drake's farm. Please refer to page 58 for detailed description of things that can be observed along the way.

From Mr. Drake's farm to Dowling children pass by a series of small homes and cottages along the shore of the lake.

VI. LEARNING POSSIBILITIES AND SUGGESTIONS FOR FURTHER CURRICULUM WORK

A. Opportunity to see a community in its totality as well as to see and understand its parts and their relationships to each other.

B. Why is town here? What functions does it serve?

C. What industry is found in the town?

D. Why isn't Dowling larger? Is future growth likely?

E. What is meant by "unincorporated"?

F. How would it become incorporated?

G. Who performs community services here?

H. How does life here differ from city life?

I. How much interdependence is there between areas like this and cities?

J. What are the advantages and disadvantages of life in an area such as this?

K. What causes rural-urban population shifts?

L. Pattern of growth of population centers

M. Further study into modern rural communities and their development

VISIT TO MR. DRAKE'S FARM

I. LOCATION OF FARM

Farm borders the north boundry of the Center property

Hiking time is about 20 minutes each way

II. DESCRIPTION OF FARM

A. Over 600 acres in separated parcels of land on both sides of the lake.

B. Farmer and married son run the entire operation

C. Essentially a beef and sheep farm

D. Animal pens, barn, farm house, and sheds located on Highway M-37

E. Farmer buys young calves to raise and market when ready for slaughter. Cattle are housed in lower part of the barn and in adjacent pens. As many as 100 head can be observed. Most of the herd are white-faced Hereford; occasionally a few Black Angus can be seen.

F. Farmer also buys young lambs to be raised on the farm. Corn is cut as silage and stored in the silo. Hay is stored in the barn.

G. Other animals that can be seen are chickens, several horses, and a dog.

H. Much of the feed for the animals is raised on the farm. Corn is cut as silage and stored in the silo. Hay is stored in the barn.

I. Topography is level to gently rolling.

J. Old orchard and crop lands can be viewed from the barnyard.

K. A variety of types of farm machinery can be seen in the barn and adjacent sheds.

III. SEASONAL AVAILABILITY

Farm can be visited anytime throughout the year

IV. EQUIPMENT NEEDED

A. None necessary

B. Children can get close enough to animals for picture taking.

V. DESCRIPTION OF THINGS ALONG THE WAY

A. Road

1. Camp wood lot of deciduous trees
2. Planted evergreens
3. Rolling, glacial topography
4. Roadside shrubs
5. Roadside (seasonal changes)
6. Cultivated fields
7. Nut trees along highway
8. Fences and fence posts
9. Windbreak planting
10. Roadside tree forms
11. Birds of the open fields
12. Pavement: breaks, expansion spaces, drainage, etc.

B. Cross country

1. Lake shore vegetation
2. Lake shore geology
3. Camp woodlot of deciduous trees
4. Birds of the woods
5. Insects of the woods and orchards
6. Woodland flowers
7. Woodland animals, nests and dens

8. Old apple orchards

9. Stumps and dying trees

10. Gully control and erosion

11. Pasture weeds

12. Birds of the fields

13. Glacial topography

14. Relations of growth of tree roots to subsurface water level

15. Molds and decay of wood

VI. LEARNING POSSIBILITIES

A. Implications of mechanization to farming

B. Historical aspects of farming as compared to modern methods of specialized farming

C. How the various machinery operates

D. Good and poor farming practices

E. Beef cattle, kind of cattle and their food, what a year of their life is like, meat production, upkeep

F. How the soil and topography affect farming

G. How the seasons and weather affect farming

H. Interdependence between farmer and city dweller

I. Transportation and marketing of stock

J. Types of feed grains

K. Protecting animals from disease

L. Necessity for health laws

M. The government and farming

N. Fertilizing soil by natural and artificial means

O. Farm entertainment and recreation - now and 50 years ago

P. Relationship of green plants to life on earth

Q. Rural-urban population shifts

VISIT TO SAWMILLS, OLD AND NEW

I. LOCATION OF MILLS

The "old" sawmill is located along the west side of highway M-37 at the south edge of Dowling. Hiking time from camp is 30 minutes.

The "new" sawmill is located four miles north of Clear Lake. It can be easily reached by school bus.

II. DESCRIPTION OF MILLS

The "new" sawmill is a circular sawmill driven by a diesel engine. It is equipped to handle eight foot logs. The mill equipment includes log deck, log carriage, carriage tuck and cable, sawyers controls, circular saw, conveyer rollers, planer, swing saw, fire wood and a lumber loading platform. The mill is housed in a wooden shed on sloping ground. This expedites log handling and lumber loading.

The "old" sawmill is much more primitive and reminiscent of lumbering at the turn of the century. It is driven by a steam powered engine. It has essentially the same equipment as the other mill. However, it is housed on level ground and is not completely covered.

III. DESCRIPTION OF ACTIVITY

When the mills are in operation, children may stand nearby and view the entire procedure. When the mills are not running, children are able to closely examine the equipment.

IV. SEASONAL AVAILABILITY

The mills operate periodically during all seasons, and children may visit at all times throughout the year.

V. LEARNING POSSIBILITIES

A. Understanding of the source of power for the mills

1. How wood burns

2. Fuel (wood) as a source of heat

3. Heat as a form of energy

4. Energy, power and work

5. Transmission of power

B. Seeing the production line assembly of the mills

C. Finding out how the mills operate

D. Noticing the amount of wood wasted

E. Finding out about the use of waste material

F. Learning the history of use of by-products of saw mills

G. Learning about the kind, size, and condition of logs milled

H. Finding more about the history of logging and milling in Michigan, in the United States, and in the world

I. Log scaling

J. Lumber scaling, and grading (log scale and mill scale)

K. Defects in lumber and their causes

L. Storage of lumber, its moisture content, seasoning lumber, kiln drying, checking and warping

M. Sources of logs, past and present

N. Past and present day log and lumber transportation

O. Understanding timber as a renewable natural resource

Battle Creek Public Schools
Battle Creek, Michigan

OUTDOOR EDUCATION CENTER

TO: Instructional Personnel Involved in Resident Outdoor Education in the Battle Creek Public Schools

RE: RECOMMENDED STAFF RESPONSIBILITIES FOR PROVIDING A GOOD OUTDOOR EXPERIENCE AT THE OUTDOOR SCHOOL FOR UPPER ELEMENTARY BOYS AND GIRLS

The Outdoor School Staff - General Description

The Outdoor School at Clear Lake has a fully certified resident teaching staff. These people are usually first and second year teachers representing a broad background of academic training as a group. Many have had experiences with children in outdoor programs prior to coming to the Outdoor Education Center.

In addition to the certified teachers a variable number of student teachers from Western Michigan University and Michigan State University are assigned to the Outdoor Education Center for periods of one week to several weeks. A number of students from the "Teaching and Learning" classes at Western Michigan University also use Clear Lake for their pre-student teaching participation experience.

Several college students participating in a work-study program at Antioch College are assigned as non-professional teacher aides at the Center in support of the Outdoor School program and weekend conference activities.

I. RECOMMENDED CLASSROOM TEACHER RESPONSIBILITIES IN THE RESIDENT OUTDOOR PROGRAM

The classroom teacher plays a major role in affecting the success of the week of residency at the Outdoor School. She carries the primary responsibility for the educational growth and development of the children before they come to Clear Lake and after they leave.

It follows that the classroom teacher cannot relinquish this responsibility to the outdoor school teacher assigned to her group; therefore, she must logically combine forces with the outdoor teacher so that both become functional members of a leadership team, each giving of their own special talents to provide the best possible experiences for the boys and girls.

More specifically (with proper orientation and guidance), we recommend that the classroom teacher become involved in the outdoor education program as follows:

1. The classroom teacher develops a general outline of experiences and learnings she would like her children to be exposed to at Clear Lake. (Planning aids and consultant service to be provided.)

2. The classroom teacher helps the children develop some specific purposes and concerns about what they will do and learn in an outdoor setting prior to their week at Clear Lake.

3. The classroom teacher provides on-the-spot guidance for the outdoor school teacher's day by day organization of activities at Clear Lake so the major outdoor education objectives, as pre-planned by the classroom teacher, will be met.

4. The classroom teacher plays a functional role in all activities at a level appropriate to her knowledge of children, the organizational structure of the group, the special contribution learning in an outdoor setting can make to the development of the intellectual processes of children through observation and inquiry (see p. 5 - A Camping We Will Go), and her knowledge of the out-of-doors.

5. The classroom teacher retains a leadership role in maintaining the behavioral expectations demanded of students in the classroom. This responsibility cannot be delegated at any time. The classroom;teacher must provide strong support for the outdoor school teacher working with her group.

6. The classroom teacher conducts a daily 30-40 minute evaluation and planning session on the days activities with the children during a time block set aside for this purpose Focus might be on:

    a. the major accomplishments of the day and what has been learned.

    b. the ideas and activities that would be interesting to pursue further in the classroom or at home.

    c. special problems the group may need further direction and help in solving.

    d. projection of the next day's activity to prepare the children for specific learnings that will be developed.

    e. recording written impressions of the camp day (log books, notebooks, etc.).

7. The classroom teacher assumes bunkhouse "put-to-bed" duties on a rotational basis in proportion to the outdoor school staff's bunkhouse responsibilities (maximum of two nights per week).

8. Realizing that some additional time must be given to provide this unique educational opportunity for children, it is hoped that the classroom teacher will anticipate the need to clear her normal after school commitments during the week of visitation so she will be able to give the needed leadership and support to her children and the outdoor school teacher.

(certain obligations that COULD NOT be re-scheduled, omitted, modified, or substituted would be discussed with the building principal who would discuss the problem with the Outdoor Education Center Director, and work out a solution.)

II. RECOMMENDED OUTDOOR SCHOOL TEACHER RESPONSIBILITIES IN THE RESIDENT OUTDOOR EDUCATION PROGRAM

The outdoor school teacher is a resource person who is skillful in providing leadership in the many and varied activities which can be pursued at Clear Lake. He is also familiar with the organizational structure and daily routine of the outdoor school.

The outdoor teacher does not have a continuing responsibility for the educational growth and development of a group of children but does have a primary responsibility to work cooperatively with the classroom teacher to develop appropriate organization during the week at Clear Lake to incorporate and implement the pre-planned activities, thereby meeting the objectives of the classroom teacher and her students.

More specifically we recommend that the outdoor school teacher becomes involved in the resident outdoor education program as follows:

1. The outdoor school teacher should have an opportunity to review the OUTDOOR EXPERIENCE PLANNING SHEET developed by the classroom teacher prior to coming to Clear Lake, and plan accordingly.

2. The outdoor school teacher sets up the initial organization for the classroom group, classroom teacher, and teaching aides upon the arrival of the children on Monday morning.

3. The outdoor school teacher provides the organizational leadership for routine daily living and learning activities--meals, bedtime, lazy hour, bus transportation, trips, instructional materials, cookouts, etc.

4. The outdoor school teacher reviews the classroom group's purposes for coming to the outdoor school, with students, classroom teachers and aides, and develop a week long organizational pattern for providing the kinds of experiences desired.

5. The outdoor school teacher implements the organizational plan developed with the group and work cooperatively with the classroom teacher to involve all associated adults in roles appropriate to their ability and responsibility.

6. The outdoor school teacher in pre-activity planning sessions provides an internal structure for each major activity that will expose the children to the "what and why of the here and now". (See p. 5 - A Camping We Will Go.)

7. The outdoor school teacher assumes bunkhouse "put-to-bed" duties on a rotational basis in proportion to the classroom teacher's recommended bunkhouse responsibilities (maximum of two per week).

8. The outdoor school teacher has the primary responsibility for organizing and conducting the evening programs - some of which might be pre-planned in the classroom and some that are developed at Clear Lake.

III. RECOMMENDED STUDENT TEACHERS' RESPONSIBILITIES IN THE RESIDENT OUTDOOR EDUCATION PROGRAM

The student teachers, both Michigan State University and Western Michigan University, are of two types --those that use the Outdoor Center to pick up a week of student teaching experience as part of the classroom experience and those that have a strong interest in educating children in the out-of-doors and work out a plan with Western Michigan University, their supervising teacher and the Outdoor Center to have an extended experience in outdoor work with children.

The student teachers are responsible to the outdoor school staff and outdoor education involved in professional duties on the same basis as in the classroom.

Other college students serve as non-professional teacher aides and are responsible to the outdoor school teachers.